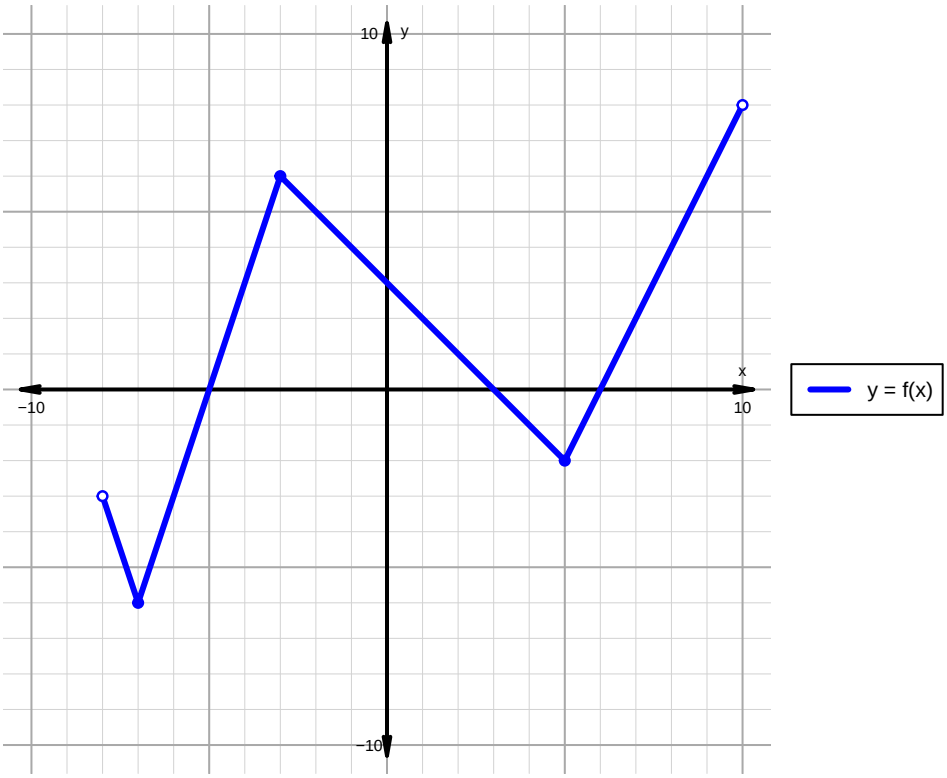
Name: Date:

Intervals, Transformations, and Slope Solution (version 158)

1. The function f is graphed below.

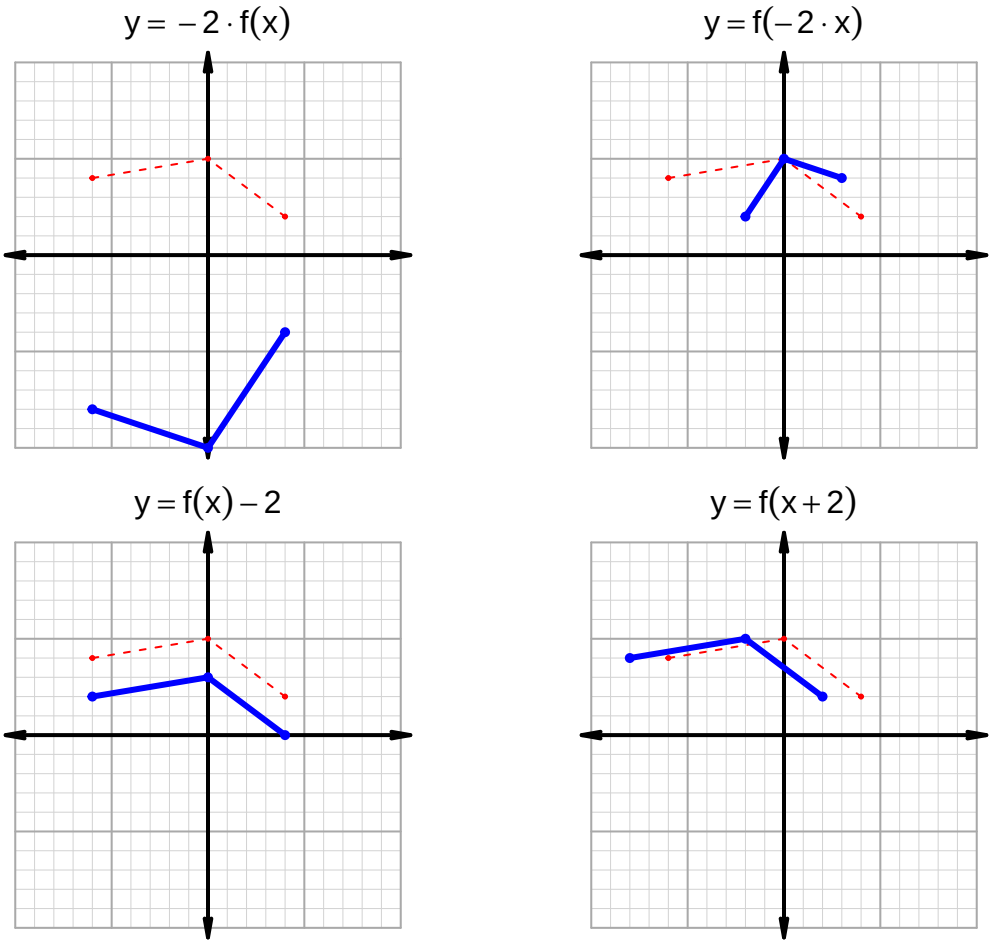


Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-5, 3) \cup (6, 10)$
Negative	$(-8, -5) \cup (3, 6)$
Increasing	$(-7, -3) \cup (5, 10)$
Decreasing	$(-8, -7) \cup (-3, 5)$
Domain	$(-8, 10)$
Range	$(-6, 8)$

Intervals, Transformations, and Slope Solution (version 158)

2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 47$ and $x_2 = 87$. Express your answer as a reduced fraction.

x	$g(x)$
15	47
47	60
60	87
87	15

$\frac{g(87)-g(47)}{87-47} = \frac{15-60}{87-47} = \frac{-45}{40}$

The greatest common factor of -45 and 40 is 5. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-9}{8}$$